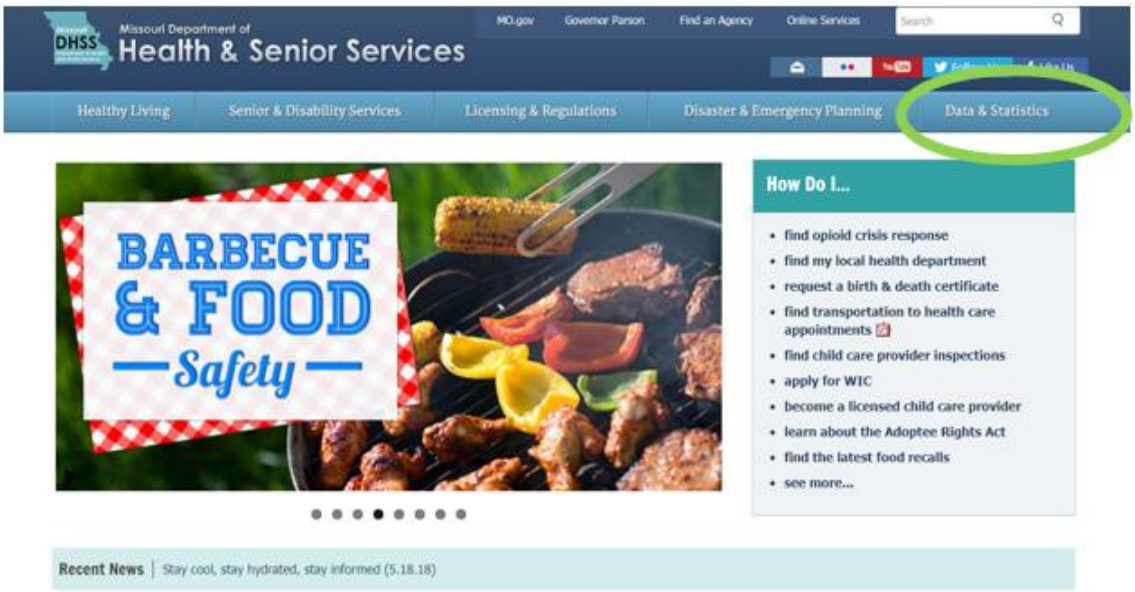
Quantifying the Issue: MOPHIMS Demonstration

The following information was prepared by the DHSS Bureau of Health Care Analysis and Data Dissemination and is adapted from the MOPHIMS: *Introduction to Profiles and MICA* handbook. The entire handbook is available online at http://health.mo.gov/data/mica/MICA/CHAIPTraining.html.

DHSS Home Page

An easy way to locate the community health assessment and intervention planning tools is to access the **Data & Statistics** link from the DHSS home page.

http://www.health.mo.gov



Data, Surveillance Systems & Statistical Reports

The Data & Statistics link on the home page connects to the **Data, Surveillance Systems & Statistical Reports** website. The first section of this web page contains the community health assessment and intervention planning tools: Community Data Profiles, MICA (Missouri Information for Community Assessment), and Community Health Improvement Resources (CHIR). Other data resources are also listed on this page. The contents of the Data, Surveillance Systems & Statistical Reports website are shown on the next two pages.

http://www.health.mo.gov/data/index.php

Data, Surveillance Systems & Statistical Reports

DHSS Home » Data & Statistics

- Data Release Policies, Procedures and Guidelines (VR & PAS)
- Institutional Review Board Guidelines

Community Health Assessment and Intervention Planning

- Missouri Health Assessment
- Missouri Health Improvement Plan NEW!
- MOPHIMS (Missouri Public Health Information Management System)
- Community Data Profiles (State, County and City Profiles)
- MICA (Missouri Information for Community Assessment)
- Priorities MICA
- Health Data Training
- Community Health Improvement Resources (CHIR)
- Opioid Crisis Response NEW!
- Life Expectancy Data
- Years of Potential Life Lost (YPLL) Data
- Age Adjustment Worksheet
- Affordable Care Act Maternal, Infant and Early Childhood Home Visiting Program Needs Assessment
- The Burden of Chronic Diseases in Missouri - Progress and Challenges

Data and Surveillance Systems

Abortions
Adult Blood Lead Epidemiology and Surveillance (ABLES)
Bioterrorism Sentinel Surveillance
Birth Certificate Data
Birth Defects Registry
Behavioral Risk Factor Surveillance System (BRFSS)
Carbon Monoxide Poisoning Surveillance
Childhood Lead
Communicable Disease
County-level Study
Deaths
Divorces (Dissolutions of Marriages)
Emergency Room Visits
Environmental Public Health Tracking
ESSENCE
Fetal Deaths
Geocodes for Missouri Cities
Geographic Information Systems (GIS)
Head & Spinal Cord Injury
HIV/STD/AIDS Surveillance
Hospitalizations
Hyperthermia
Hypothermia
Influenza
Lead Poisoning
Live Births
Managed Care Data and Consumer Guides
Marriages
Missouri Cancer Registry
Health Care-Associated Infection Reporting (HAI)
Missouri Child Health Assessment Program Survey (MoCHAPS)
Missouri Hazardous Material Incident Surveillance (MHMIS)
Missouri Health Care-Associated Infection Reporting System (MHIRS)
Missouri Pregnancy Risk Assessment Monitoring System (PRAMS)
Missouri School Health Profiles
Office of Surveillance
Diseases/Conditions Annual Reports
Patient Abstract System
Pediatric Nutrition Surveillance System (PedNSS)
Pregnancy Associated and Maternal Mortality Review (PAMR)
Pregnancy Nutrition Surveillance System (PNSS)
Population Estimates
Rabies
Sexually Transmitted Diseases (STDs)
Tuberculosis Disease and Infection
Vital Statistics
Youth Risk Behavior Surveillance System
Youth Tobacco Survey (YTS)

Special Reports

- *The Burden of Chronic Diseases in Missouri - Progress and Challenges*
- FOCUS Articles
- 2004 MO Health Care Insurance & Access Survey: Select Results
- Missouri Health Care Safety Net Report 2005
  (Complete Report: Make sure to use bookmarks to view different Sections and Appendices of the report.)
- Missouri Nosocomial Infection Reporting Data: Report to the Governor and General Assembly 2015 NEW!
- Missouri KIDS COUNT NEW!

We have also broken out the Sections and Appendices of this report for faster loading and viewing. Each Section has its Tables, Figures and GIS Maps contained within in the section.

- Missouri Pregnancy Related Assessment and Monitoring System 2005 Data Report
- Missouri Senior Report
- MS/ALS Prevalence Study Jefferson County 2006
- The State of Missourians' Health Report Revised
- Weldon Spring Cancer Inquiry Report
- 2011 Weldon Spring Update Report
- Worksite Wellness

Data & Statistics

- Missouri Public Health Information Management System (MOPHIMS)
- Profiles
- MICA
- Priorities MICA
- Community Health Improvement Resources (CHIR)
- Births
- Deaths
- Patient Abstract System (PAS)
- Behavioral Risk Factor Surveillance System (BRFSS)
- County-Level Study (CLS)
- Healthcare-Associated Infection Reporting (HAI)
- ESSENCE

Related Links

- Cancer Registry
- Communicable Disease Reporting & Surveillance
- Birth Defects Registry
- Environmental Public Health Tracking

Community Health Assessment and Intervention Planning Tools

Community Data Profiles are available for various subject areas. Each Community Data Profile table provides data on 15-30 indicators for the county/city selected. Information provided includes data year(s), number of events, county/city rate, state rate, statistical significance (compared to the state), quintile ranking, links to additional graphing functions, and multiple downloading options.

MICA (Missouri Information for Community Assessment) datasets provide information on health conditions and associated topics. Users can choose from among the many conditions, generate data tables by year of occurrence, age, gender, race, and county or ZIP code of residence, and obtain age-adjusted rates. MICA also allows users to create and download tables, charts, and maps into other applications. Data for the MICAs are extracted and summarized from files maintained by the Missouri Department of Health and Senior Services. Confidentiality rules have been developed to protect the privacy of individuals.

CHIR (Community Health Improvement Resources) is an interactive, evidence-based planning tool. It provides links to information and resources which can be used to design, implement, and evaluate interventions that improve the health of a community. CHIR includes seven steps: Partnerships, Assessment, Readiness, Capacity, Intervention, Evaluation, and Momentum.

Together these tools can assist health professionals with the process of continuous community health improvements.

PLEASE NOTE: The Bureau of Health Care Analysis and Data Dissemination periodically updates the community health assessment and intervention planning tools. The exact screen captures presented in this handout may not be available in the future.

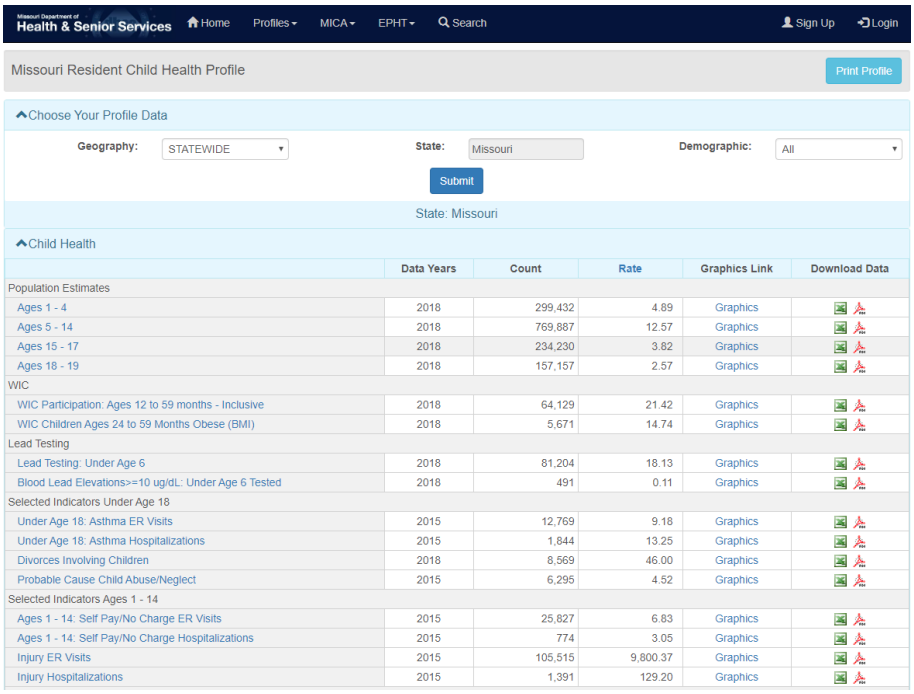
Community Data Profiles

Overview

The Community Data Profiles can be accessed from the MOPHIMS home page. Simply click on the Data Profiles logo on the left of the screen. Much like the MICAs, Profiles have a landing page where you can choose which topic-, demographic-, or disease-specific data you'd like to access.

Unlike the MICAs, the Community Data Profiles are static reports with 15-30 indicators all related to a single topic of interest. While the ability to customize is limited, there are some exciting new visualization tools available in the revised Profiles.

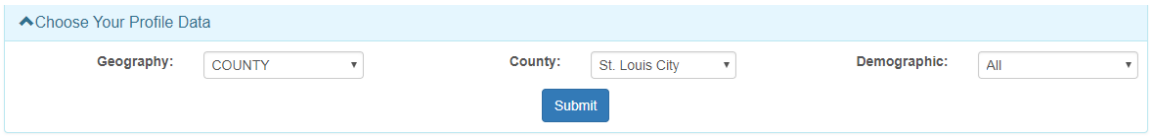
The **Child Health Profile** includes data from several datasets including: WIC, Patient Abstract System (hospitalization and emergency room visits), death certificates, environmental testing, and more. The initial screen shows data for the entire state of Missouri, though as you'll see later, users can choose to view data for a specific county, city, or region.



	Data Years	Count	Rate	Graphics Link	Download Data
Population Estimates					
Ages 1 - 4	2018	299,432	4.89	Graphics	
Ages 5 - 14	2018	769,887	12.57	Graphics	
Ages 15 - 17	2018	234,230	3.82	Graphics	
Ages 18 - 19	2018	157,157	2.57	Graphics	
WIC					
WIC Participation: Ages 12 to 59 months - Inclusive	2018	64,129	21.42	Graphics	
WIC Children Ages 24 to 59 Months Obese (BMI)	2018	5,671	14.74	Graphics	
Lead Testing					
Lead Testing: Under Age 6	2018	81,204	18.13	Graphics	
Blood Lead Elevations>=10 ug/dL: Under Age 6 Tested	2018	491	0.11	Graphics	
Selected Indicators Under Age 18					
Under Age 18: Asthma ER Visits	2015	12,769	9.18	Graphics	
Under Age 18: Asthma Hospitalizations	2015	1,844	13.25	Graphics	
Divorces Involving Children	2018	8,569	46.00	Graphics	
Probable Cause Child Abuse/Neglect	2015	6,295	4.52	Graphics	
Selected Indicators Ages 1 - 14					
Ages 1 - 14: Self Pay/No Charge ER Visits	2015	25,827	6.83	Graphics	
Ages 1 - 14: Self Pay/No Charge Hospitalizations	2015	774	3.05	Graphics	
Injury ER Visits	2015	105,515	9,800.37	Graphics	
Injury Hospitalizations	2015	1,391	129.20	Graphics	

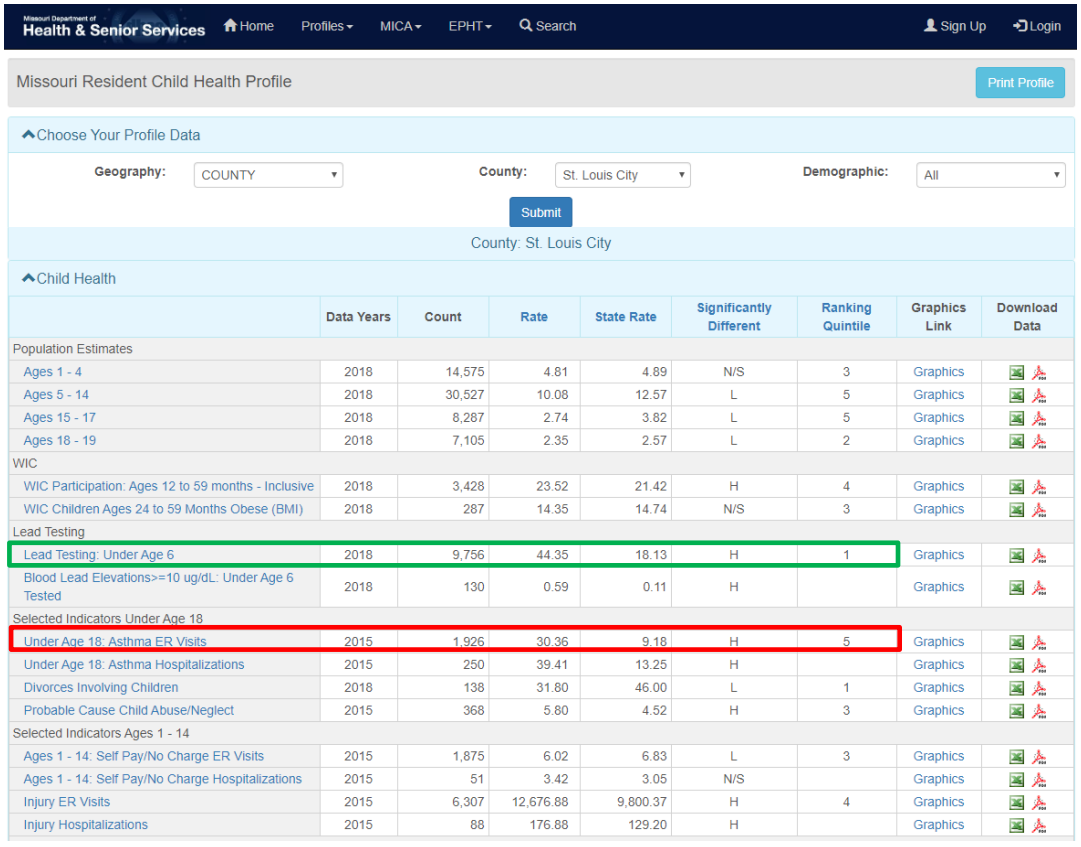
Each state level Profile will feature the same template on the Indicators table with columns for the data years, count, and rate are available for each indicator. Using *Under 18: Asthma ER Visits* as an example, a user could quickly see that there were more than 12,000 visits statewide in 2015 with a rate of 9.18. Users can access the link at the bottom of the page to view the *Indicator constants and denominators* page, which shows that the rate constant for this indicator is 1,000. Because Profiles contain data from so many sources it is important to note the differences in rate constants. Users also have the option to download the data or click the **Graphics** link, which will be explored in more detail later in the presentation.

Many users will be interested in data specific to their location. The buttons on the **Choose Your Profile Data** section allow users to customize their geography of interest. If you click on **Geography**, then choose **County** from the dropdown, the **County** option appears which will allow users to choose a single county for display. Some counties with large enough minority populations will also allow users to explore data by race, using the **Demographic** dropdown. After selecting a specific geography and clicking 'Submit' users will notice a change in structure of the Indicators table.



St. Louis City-specific data is now displayed. Users can easily compare the county frequency and rate to the state. Additionally, two new columns provide context to those statistics and their differences. The **Significantly Different** column shows the results from background calculations which compare the county rate to the state rate to determine whether they are significantly, or meaningfully different. If the county rate is significantly higher, an H appears. If it is significantly lower an L is shown, and if there is no statistical difference in the rates users will see N/S. The **Ranking Quintile** column shows where the county's rate ranks relative to all 115 Missouri counties. If it falls in the top 20% of counties (1-23) a ranking quintile of 1 is assigned. The lowest 20% of counties (92-115) would be assigned a quintile of 5. Whether or not a county with the highest rate is assigned a 1 or a 5 depends on the impact of the indicator.

If an indicator has been designated as having positive or neutral outcomes, the county with the highest rate will have a quintile ranking of 1. However, if the indicator has negative consequences, the highest rate will be ranked 5. A quick glance at the Profile table and the **Ranking Quintile** column will allow users to see if they are doing well or poorly for a specific indicator compared to other counties in the state. St. Louis City, for example, has a quintile ranking of 1 for *Lead Testing: Under Age 6* (shown in green), meaning they have a rate among the highest 20% of counties in the state (lead testing is considered a neutral indicator), but their quintile ranking for *Under Age 18: Asthma ER Visits* (shown in red) is 5- their rates are amongst the highest in the state for this indicator (see screenshot of the **St. Louis City Child Health Profile** shown below).



Missouri Department of Health & Senior Services | Home | Profiles | MICA | EPHT | Search | Sign Up | Login

Missouri Resident Child Health Profile — Print Profile

Choose Your Profile Data

Geography: COUNTY | County: St. Louis City | Demographic: All | Submit

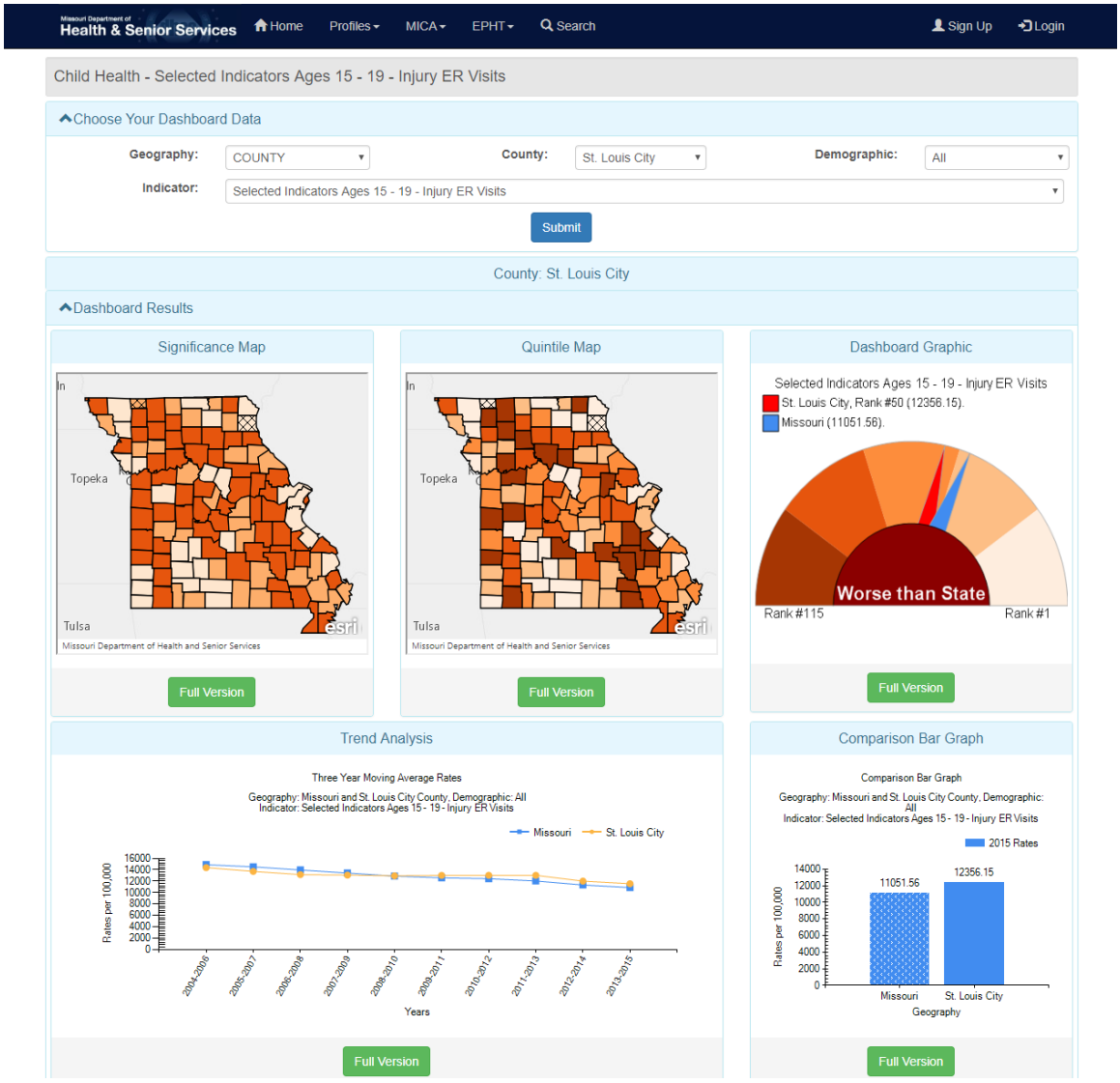
County: St. Louis City

Child Health

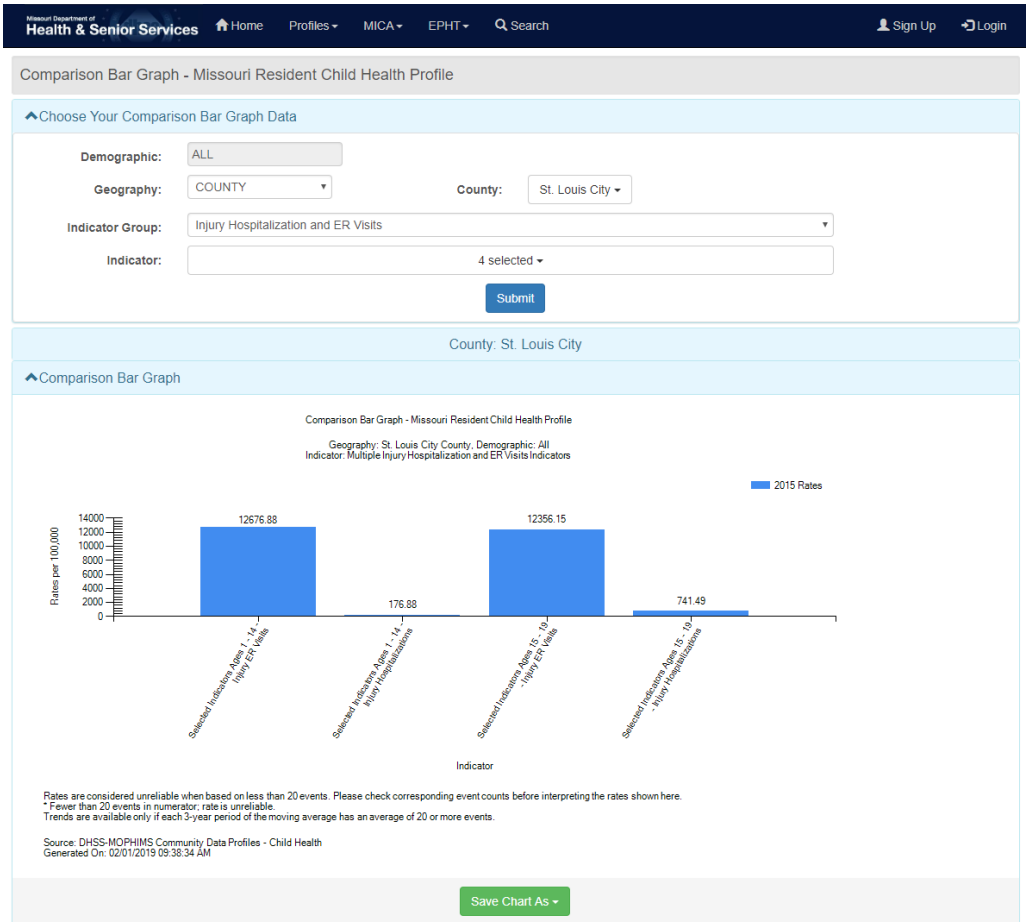
	Data Years	Count	Rate	State Rate	Significantly Different	Ranking Quintile	Graphics Link	Download Data
Population Estimates								
Ages 1 - 4	2018	14,575	4.81	4.89	N/S	3	Graphics	
Ages 5 - 14	2018	30,527	10.08	12.57	L	5	Graphics	
Ages 15 - 17	2018	8,287	2.74	3.82	L	5	Graphics	
Ages 18 - 19	2018	7,105	2.35	2.57	L	2	Graphics	
WIC								
WIC Participation: Ages 12 to 59 months - Inclusive	2018	3,428	23.52	21.42	H	4	Graphics	
WIC Children Ages 24 to 59 Months Obese (BMI)	2018	287	14.35	14.74	N/S	3	Graphics	
Lead Testing								
Lead Testing: Under Age 6	2018	9,756	44.35	18.13	H	1	Graphics	
Blood Lead Elevations>=10 ug/dL: Under Age 6 Tested	2018	130	0.59	0.11	H		Graphics	
Selected Indicators Under Age 18								
Under Age 18: Asthma ER Visits	2015	1,926	30.36	9.18	H	5	Graphics	
Under Age 18: Asthma Hospitalizations	2015	250	39.41	13.25	H		Graphics	
Divorces Involving Children	2018	138	31.80	46.00	L	1	Graphics	
Probable Cause Child Abuse/Neglect	2015	368	5.80	4.52	H	3	Graphics	
Selected Indicators Ages 1 - 14								
Ages 1 - 14: Self Pay/No Charge ER Visits	2015	1,875	6.02	6.83	L	3	Graphics	
Ages 1 - 14: Self Pay/No Charge Hospitalizations	2015	51	3.42	3.05	N/S		Graphics	
Injury ER Visits	2015	6,307	12,676.88	9,800.37	H	4	Graphics	
Injury Hospitalizations	2015	88	176.88	129.20	H		Graphics	

Profiles Dashboard

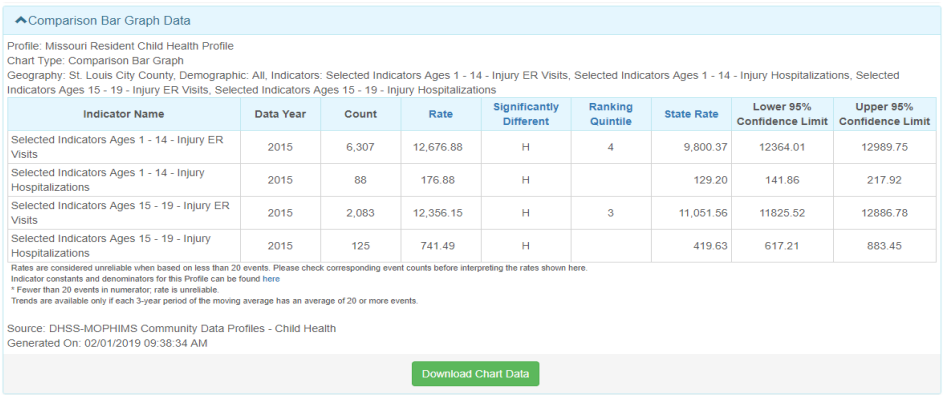
Clicking on the **Graphics** link, available for most indicators, will take users to a separate tab showing the Community Data Profiles Dashboard. This dashboard features up to five data visualizations for the indicator specified. Navigate back to the **Child Health Profile** for St. Louis City. Using *Ages 15-19: Injury ER Visits*, for example, will generate a dashboard showing a **Significance Map**, a **Quintile Map**, a **Dashboard Graphic/Fuel Gauge**, a **Trend Analysis** line graph, and a **Comparison Bar Graph**. These graphics can be modified or downloaded by clicking the **Full Version** button located on each graphic thumbnail.



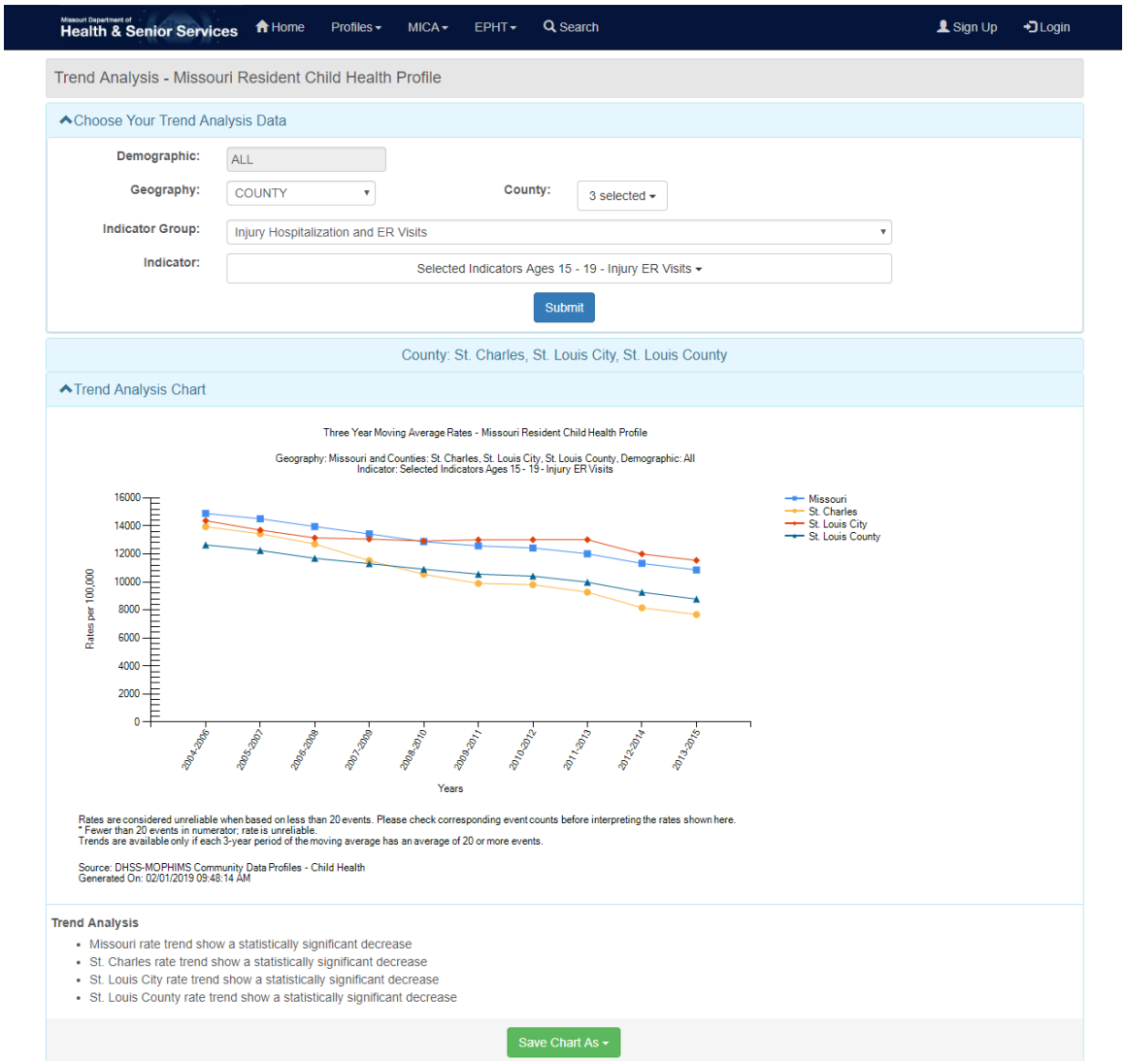
By clicking **'Full Version'** on the **Comparison Bar Graph** users can chart the rates of a single indicator for several counties, or several indicators for a single county. This functionality is also available in the **Trend Line Analysis** line graph.



The **Full Version** also shows the underlying data table for each graphic, as well as additional information like confidence limits, where applicable, for some of the graphics. This data table is also available for download, allowing users to further customize graphics or conduct additional analyses.



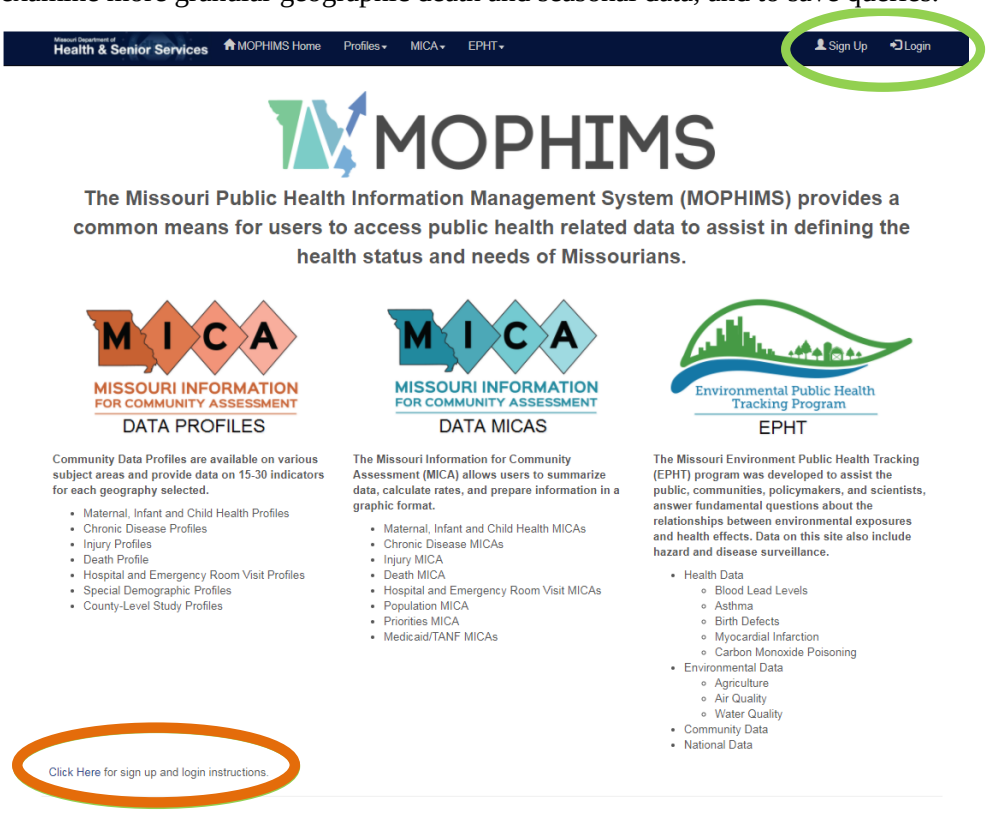
Other additional features are available in the **Full Version** graphics. For example, on the **Trend Line Analysis** line graph background statistics compare three-year moving averages to determine whether an indicator has seen significant increases or decreases over time.



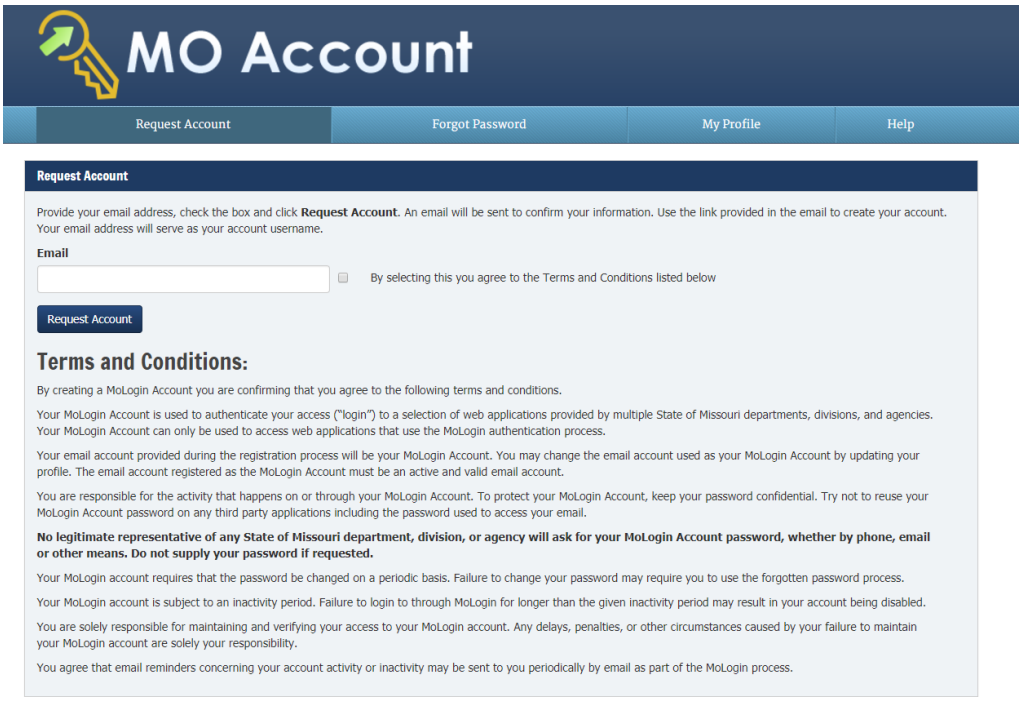
MOPHIMS Registered Users

While MOPHIMS has many exciting new features, the most prominent is the introduction of different user levels within the Data MICAs and EPHT. Data is available for free for all Public users. Additionally, users could choose to sign up to become a Registered user (which is still cost-free). The orange circle on the MOPHIMS home page directs users to a link where they can access instructions on how to register. The green circle at the top of the webpage shows the location of the Sign Up and Login buttons.

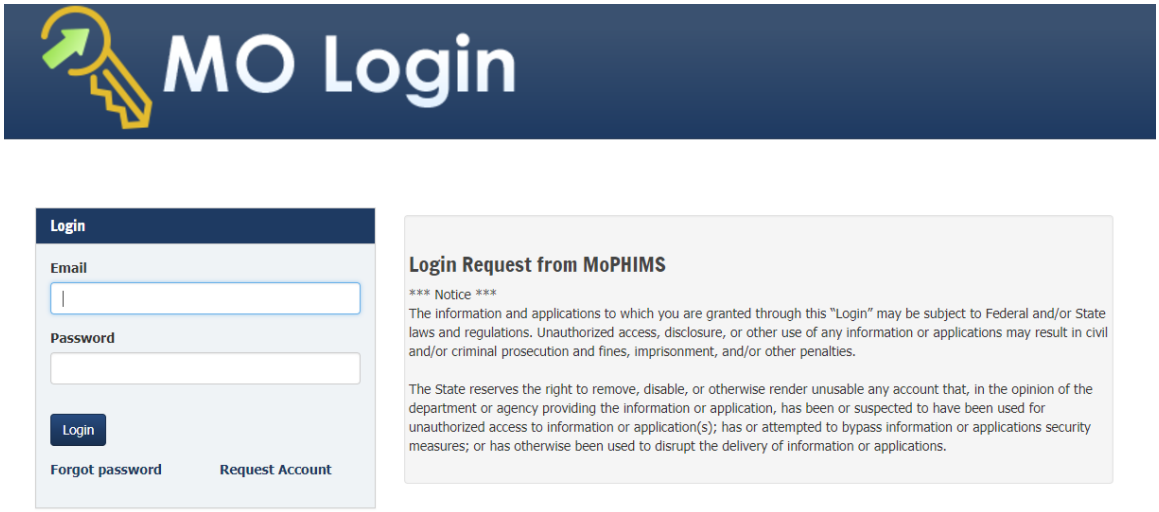
Registered users will have access to enhanced features and pieces of data not available to Public users. Some of these features include the ability to create 2x2 tables, enhanced maps, and charts, to examine more granular geographic death and seasonal data, and to save queries.



If you have not yet taken the time to become a Registered MOPHIMS user, please do so now.



Or, if you've already registered, go ahead and log in.



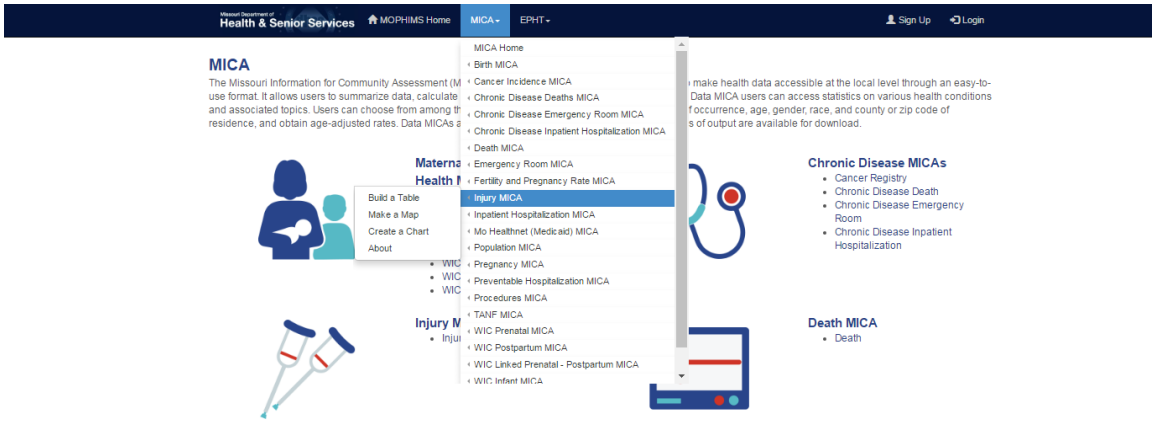
MICA (Missouri Information for Community Assessment)

Overview

The MICA website is located at https://healthapps.dhss.mo.gov/MoPhims/MOPHIMSHome. Currently, to access the MICAs, we could select the **Data and Statistics** tab, then choose MICA on the **Data, Surveillance Systems & Statistical Reports** page, or we can use the **MICA** link in the blue bar on the right side of the Community Data Profiles website.

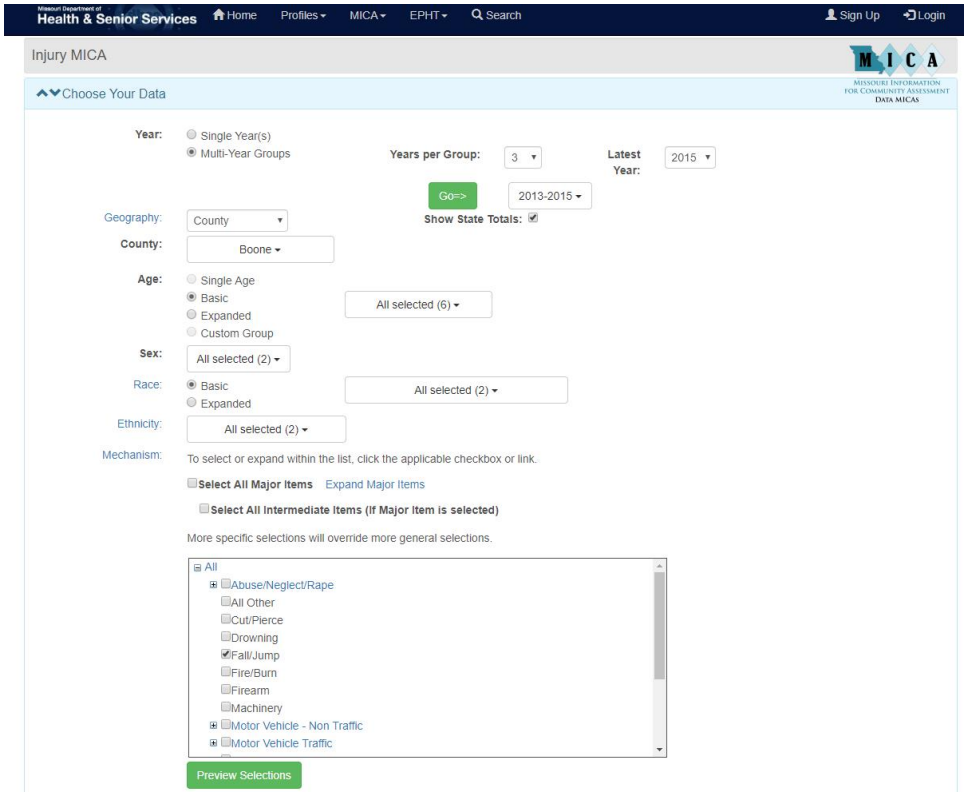
The MICA tools allow users to create and download customized tables, charts, and maps based on selected variables.

The MICA dropdown containing each MICA dataset lists the options available. For example, the **Injury MICA** allows users to *Build a Table*, *Make a Map*, *Create a Chart*, or learn more *About* the dataset.



Build a Table

Each option within the MICA provides a **Choose Your Data** screen, which allows users to select variables, data years, and geographic areas in order to create customized queries. Additional choices may be available depending upon the type of data contained in each MICA. For example, the **Injury MICA** Choose Your Data screen, shown below, includes indicator variables from the Patient Abstract System.



Suppose a user is interested in discerning whether there was a race disparity (between Whites and African Americans) in fall/jump injuries during 2013-2015 in Boone County. To create the table below, they will simply make the following selections on the **Injury MICA** Choose Your Data and Build Your Results screen.

Choose Your Data
Select Year. **Multi-Year Groups, 3 years per group, then latest year= 2015, Go**
Select a Geography. **County**
Specify the Geography. **Boone County**
Specify the Mechanism. **Fall/Jump**

Build Your Results
Main Row. **Race**
Main Column. **Geography**
Statistics. **Counts and Rates**
Age Adjustment Options. **2000 Standard Population**
Confidence Intervals. **No Confidence Intervals**
Submit Query

Table Results

Save Table As ▾ Send Table to Side by Side

Title:	**Missouri Resident Injuries**			
Data selected in addition to rows and columns below:	Multi-Year Groups: 2013-2015; Mechanism: Fall/Jump;			
County:	Boone	Boone	Missouri	Missouri
Statistics:	Count	Rate	Count	Rate
Race				
White	8,933	2,200.35	413,215	2,569.98
Black or African-American	1,552	2,921.21	56,228	2,511.62
All Races	10,962	2,293.00	488,261	2,613.71
Rate:	**Injury rates are annualized per 100,000 residents and are age adjusted to the U.S. 2000 standard population.**			
Source:	**DHSS - MOPHIMS - Injury MICA**			
Generated On:	**5/3/2019 3:34:30 PM**			

If a user decides they would prefer to see the race data on the rows and the geography on the columns, they can simply modify the **Main Row** and **Main Column** selections in the **Build Your Results** section. The **Save Table As** link opens the table in either Microsoft Excel or CSV, depending on user selection.

Users also have the option of adding 95% or 99% confidence intervals, often used in significance testing, to their table.

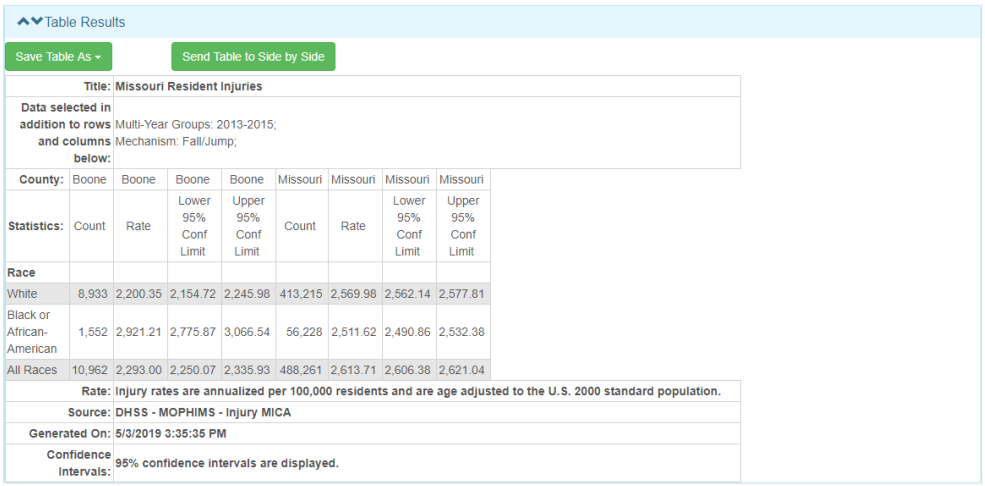


Table Results

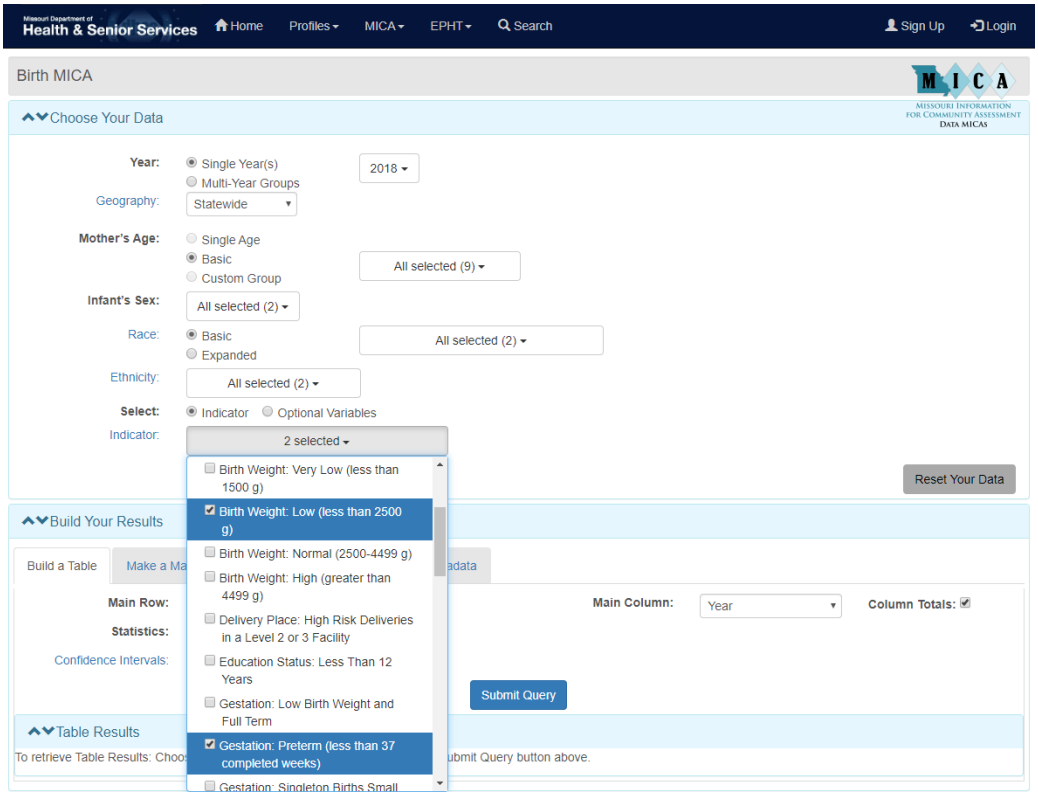
Save Table As ▾ | Send Table to Side by Side

Title:	**Missouri Resident Injuries**
Data selected in addition to rows and columns below:	Multi-Year Groups: 2013-2015; Mechanism: Fall/Jump;

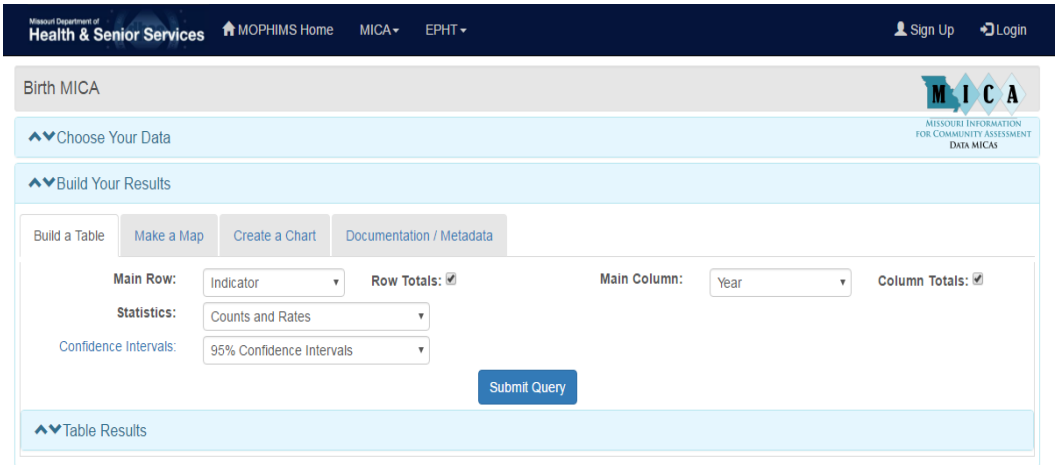
County:	Boone	Boone	Boone	Boone	Missouri	Missouri	Missouri	Missouri
Statistics:	Count	Rate	Lower 95% Conf Limit	Upper 95% Conf Limit	Count	Rate	Lower 95% Conf Limit	Upper 95% Conf Limit
Race								
White	8,933	2,200.35	2,154.72	2,245.98	413,215	2,569.98	2,562.14	2,577.81
Black or African-American	1,552	2,921.21	2,775.87	3,066.54	56,228	2,511.62	2,490.86	2,532.38
All Races	10,962	2,293.00	2,250.07	2,335.93	488,261	2,613.71	2,606.38	2,621.04

Rate:	**Injury rates are annualized per 100,000 residents and are age adjusted to the U.S. 2000 standard population.**
Source:	**DHSS - MOPHIMS - Injury MICA**
Generated On:	**5/3/2019 3:35:35 PM**
Confidence Intervals:	**95% confidence intervals are displayed.**

The MICAs contain more indicators than can easily be displayed on the main query screen. As shown earlier, users must select which Optional Variable they are interested in exploring, and then make specific selections in the **Choose Your Data** screen. **Birth MICA** and the **WIC MICAs** contain both **Indicators** and **Optional Variables**. Users must choose to explore one or the other and make appropriate selections on the Build Your Results section to display desired statistics. For instance, to view data about Low and Preterm Birth users must first select the Indicator radio button and then choose these specific **Indicators** from the drop down list in the **Choose Your Data** section.



Next, users must choose **Indicator** as either the **Main Row** or **Main Column** in the **Build Your Results** section.



Users can now compare the selected indicators in a single data table without extraneous information.

Table Results

Save Table As ▾ | Send Table to Side by Side

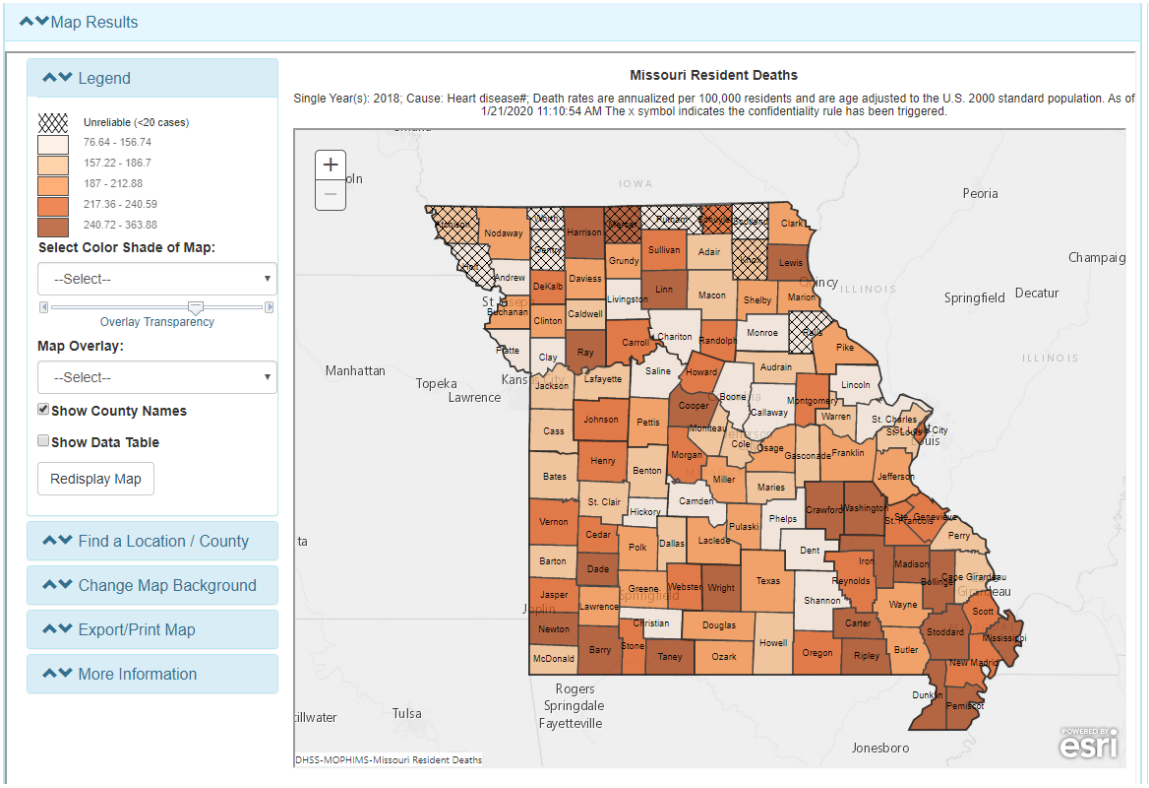
Title:	**Missouri Resident Births**	
Data selected in addition to rows and columns below:	None	
Year:	2018	2018
Statistics:	Count	Rate
Indicator		
Birth Weight: Low (less than 2500 g)	6,411	8.75
Gestation: Preterm (less than 37 completed weeks)	7,853	10.73
Rate:	**Rate per 100 Numerator: Birth Weight: Low (less than 2500 g) Denominator: Live Births with Known Birth Weight Numerator: Gestation: Preterm (less than 37 completed weeks) Denominator: Live Births with Known Gestational Age**	
Source:	**DHSS - MOPHIMS - Birth MICA**	
Generated On:	**1/21/2020 11:08:51 AM**	

Make a Map/Create a Chart

MICA also provides mapping and charting options. The **Build Your Results** section defaults to show a data table for the user's query, but one may also choose to **Make a Map** or **Create a Chart**. Users should create a query in the **Choose Your Data** section of the page and then select the mapping or charting specifics in the **Build Your Results** section.

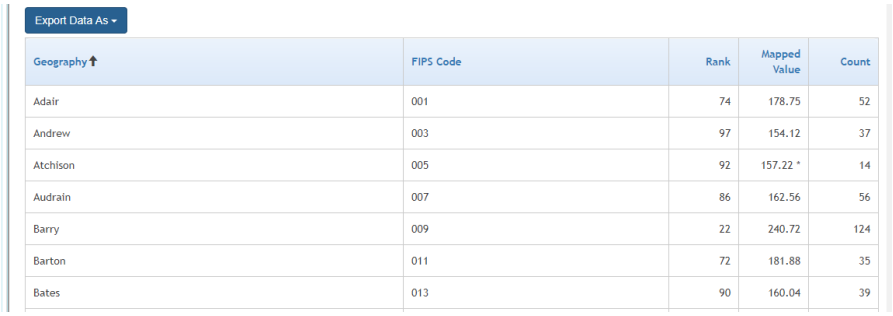
Three types of maps are available: quartile maps, quintile maps, and statistical significance maps (Higher/Lower than State). Quartile and quintile maps can be used to compare both rates and counts, while statistical significance maps show rates only.

The quintile map below, created in **Death MICA**, shows Missouri resident deaths in 2018 due to heart disease. Users can see a cluster of counties in the Bootheel Region of the state with rates that are in the highest quintile. Users may also notice that some Northern counties are overlaid with a crosshatch. This means that the rates are unreliable (based on counts of less than 20). The map can be exported as either a PDF or JPG by clicking the **Export/Print Map** button on the left side of the map.



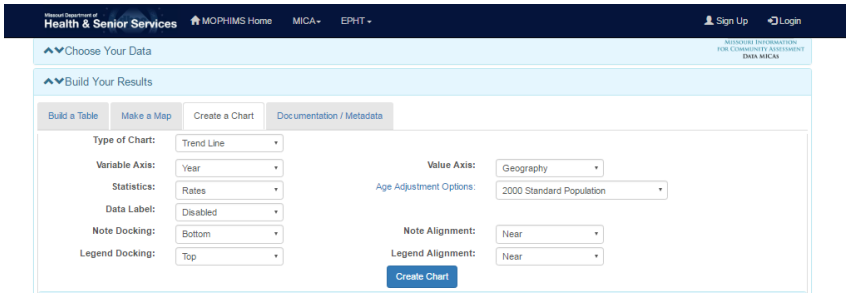
Users also have the ability to show the data table used to generate maps. By simply checking the box next to Show Data Table on the left side of the map, the information will display below the map. Included in this data table are the FIPS codes for each county, the county's rank statewide (out of 115 counties), the mapped value, in this case the rate, and the count.

The data table can be exported as a CSV file for use in Excel or GIS mapping software.



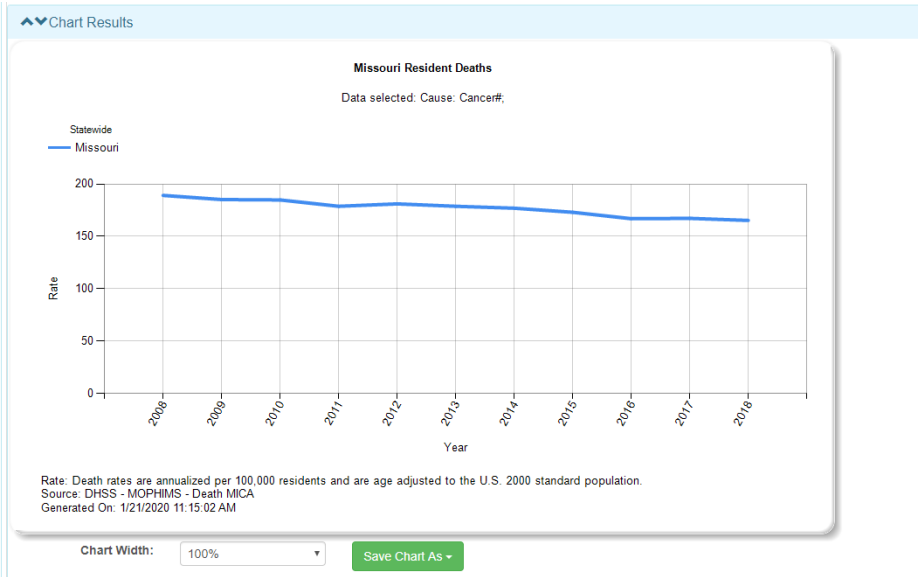
Geography	FIPS Code	Rank	Mapped Value	Count
Adair	001	74	178.75	52
Andrew	003	97	154.12	37
Atchison	005	92	157.22 *	14
Audrain	007	86	162.56	56
Barry	009	22	240.72	124
Barton	011	72	181.88	35
Bates	013	90	160.04	39

Suppose a user was interested in comparing death rates due to diabetes over time. By selecting the appropriate data in the **Choose Your Data** section and then clicking on the **Create a Chart** tab in **Build Your Data**, a user can create a **Trend Line** to do so. Other available chart types include Vertical Bar, Horizontal Bar, and Pie charts. By selecting **Trend Line** in the **Type of Chart** and choosing **Year** on the variable axis users have custom-created a chart showing the data of interest.



Other selections related to the formatting, look, and feel of the graphic may also be selected in the **Create a Chart** tab. This includes the location and alignment of data labels, legends, and notes.

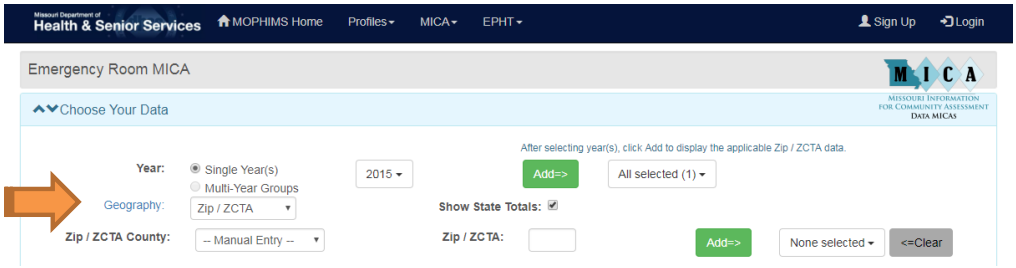
Below is the **Trend Line** for Diabetes deaths.



Much like maps, both the underlying data table and the chart itself can be exported and saved to external sources. Charts can be saved as PDF, JPEG, or PNG images.

ZIP Code and Census Tract Analysis in MOPHIMS

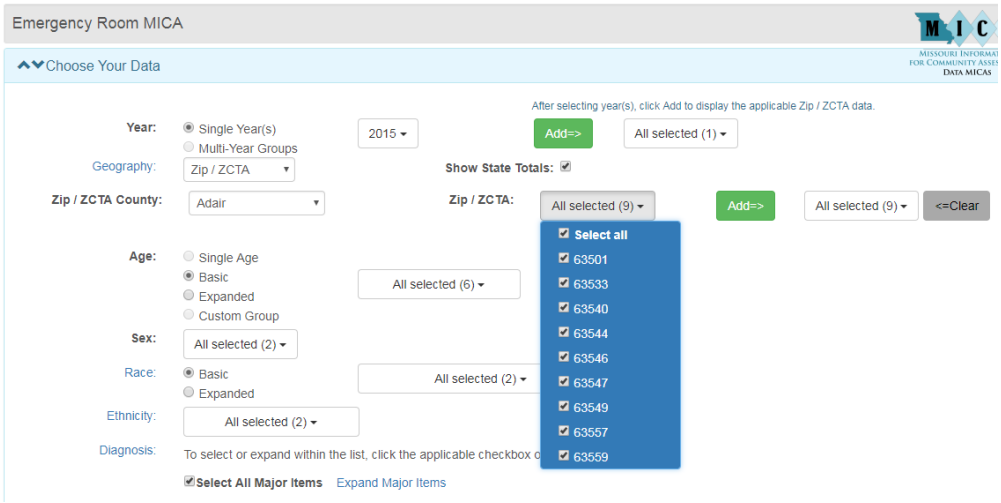
One eagerly anticipated enhancement of the MOPHIMS application is the ability for users to generate custom datasets using ZIP Code or Census Tract level data. Census tract data is available only at the Registered user level, so if users haven't yet signed up this might be the deciding factor! The following are some scenarios using ZIP Codes as the example, but this guidance is largely applicable to the census tract data, as well.



There are a few things to note before trotting down this path of generating ZIP Code level data. First, users should be sure the data years they are selecting do not cross the 2010 boundary. Because of geographical changes associated with the US Census, MOPHIMS will only allow users to group data for years 2001-2010 or 2011-most recent. If users know that there have been no major shifts in boundaries for the areas they're interested in, they should go ahead and compare away. Just keep in mind that it will require running two queries to do so. Next, those green 'Add' buttons will come in very handy. Make sure to click them after choosing data year ranges and after making initial ZIP Code selections, or MOPHIMS won't know the query is finished.

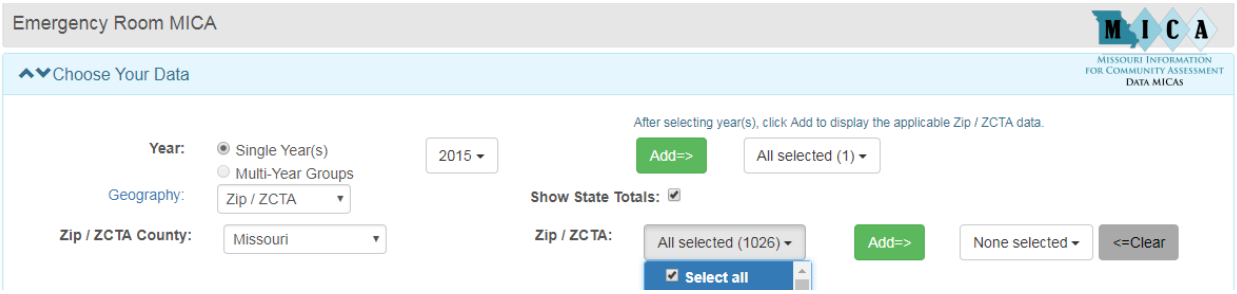
There are several ways to generate ZIP Code level data: 1) users can choose all (or a selection) of ZIP Codes for a specific county of interest; 2) users could generate a very large table that includes every ZIP Code in the state; 3) users can manually key in ZIP Codes; or 4) users can copy/paste a set of ZIP Codes into MOPHIMS from an outside application.

#1- A user is only interested in the zip codes that fall in one county.



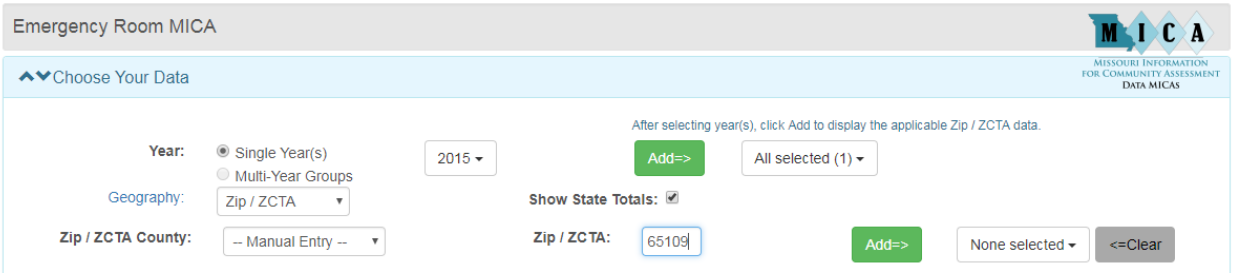
Select a specific county from the Zip/ZCTA County dropdown and make choices in the ZIP list. Keep in mind- MOPHIMS will grab every ZIP in the county and display all of the data for that geography, even if only a piece falls within county boundaries. (For example, ZIP 63549 is part of both Adair and Macon Counties.) The ensuing data table will show the count for the entire ZIP Code, not just the Adair County piece.

#2- A user wants everything!



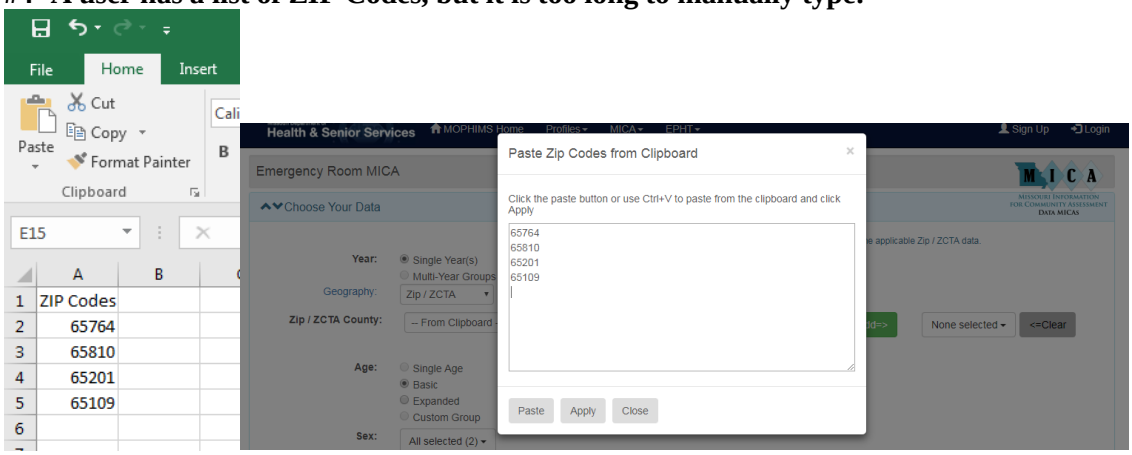
If a user is working on a project that is doing aggregation or comparison of ZIP Codes, it could be useful to download everything at once and export the data to Excel. To do so, users can simply 'Add' all 1,026 Missouri ZIP Codes by choosing 'Missouri' from the Zip/ZCTA County.

#3- A user may want a few ZIP Codes and know them off the top of their head.



Users who are only interested in data from a very few ZIP Codes can easily access that information by choosing 'Manual Entry' in the Zip/ZCTA County box and then keying in the ZIPs in the text box that appears. Don't forget to click 'Add'!

#4- A user has a list of ZIP Codes, but it is too long to manually type.



MOPHIMS has an option for those users who would like to copy/paste a list of ZIP Codes from another program into the system. Choose 'From Clipboard' in the Zip/ZCTA County dropdown and then use the text box to paste the relevant data. Most carriage returns will work in the MOPHIMS system. Once a user clicks 'Apply', they can close the pop up box.

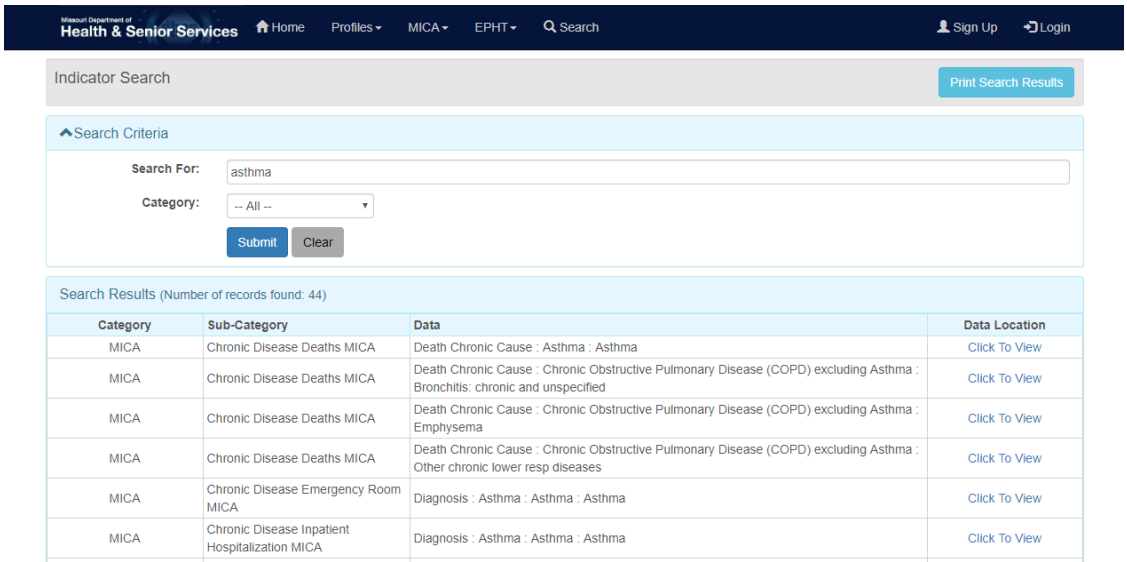
Users should remember to choose 'Geography' as either the Row or Column variable when building a table so that they can see the individual ZIP Code or Census Tract breakouts. Also, don't be alarmed when no rates are shown on the table. Due to the high error rates of small area population estimates, rates are not shown in MOPHIMS at these granular geographic levels.

Searching MOPHIMS

MOPHIMS Search is the result of our effort to help users find the information they are seeking more efficiently. MOPHIMS contains hundreds of different data types, and even our most experienced users struggled to find the data they were seeking quickly.

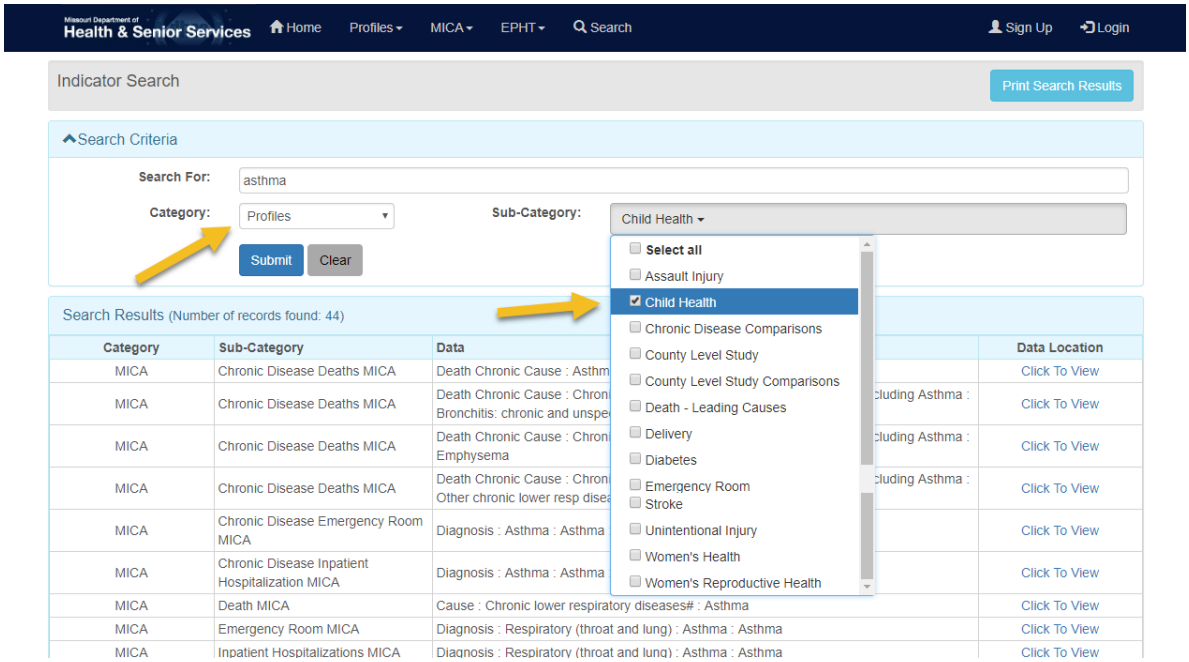
The following is an example of how the new search function works. Suppose a user wants to research how asthma is affecting individuals in their community, so they decide to search through MOPHIMS to see all the available asthma data. To begin, the user should click on "Search" that is at the top banner of every MOPHIMS webpage:

This will take the user to the Search Indicator page. Just to see what type of asthma data MOPHIMS can provide, enter "asthma" in the search box next to **Search For:** and then click on the **Submit** button.

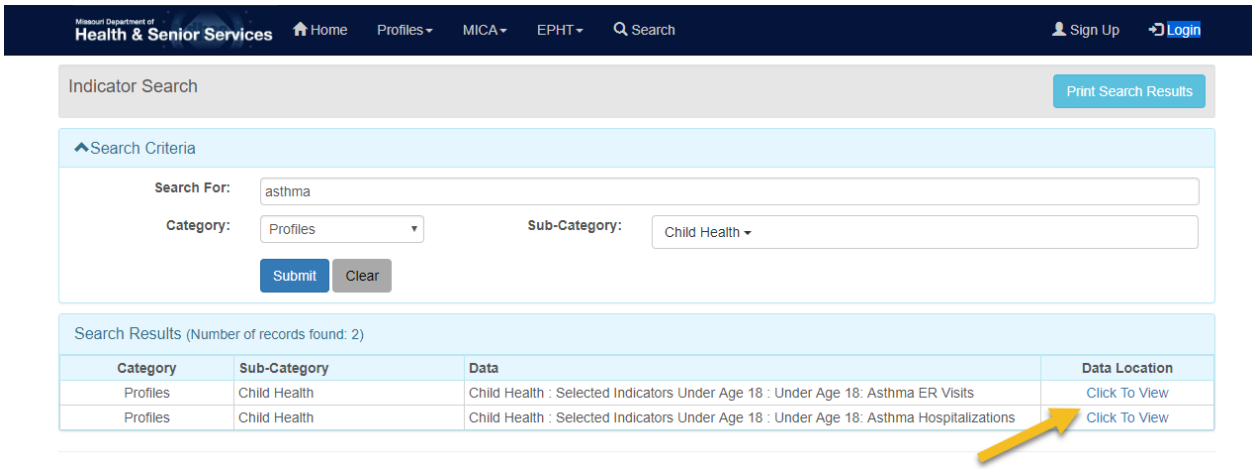


When doing this, the user will be given a table that lists all available data relating to asthma that MOPHIMS provides. This list contains several dozen different data types. For several health conditions in Missouri, the search results can be overwhelming. To help you with this, MOPHIMS has tools to help narrow the results. Returning to the original example, suppose the user chooses to view Profile pages that provide data for children with asthma.

The first step in narrowing the search results is to select "Profiles" from the **Category** drop-down selection box. When doing this, users will see a **Sub-Category** drop-down selection box appear. Select "Child Health" from this box, and then click on the **Submit** button (*below*).



The user has now narrowed the results down to the two results relevant to the original research question. From there, MOPHIMS has made it easy to go to the tool that houses that data. Simply click on "Click To View" to the right of each of your search results, and that page will be opened in a new tab in web browser.



Citations

BHCADD recommends that in-text citations of the Profiles and MICAs list the specific MICA or Profile as the specific item cited, followed by MOPHIMS as the name of the website. Bibliography entries should include the tool used as the specific item cited, MOPHIMS as the website used, the appropriate URL, and the date accessed. The following examples use the American Medical Association's style guide (AMA).

Profile in-text citation:

A total of 84,834 Missouri children under the age of 6 were tested for lead poisoning in 2017.[1]

1. DHSS, Child Health Profile.

Profile bibliography entry:

> Missouri Department of Health and Senior Services (DHSS). Child Health Profile. MOPHIMS (Missouri Public Health Information Management System). https://healthapps.dhss.mo.gov/MoPhims/ProfileBuilder?pc=1. Accessed May 3, 2019.

MICA in-text citation:

The death rate for Barry County residents decreased from 992.7 (per 100,000 residents) in 2008 to 800.1 in 2009.[2]

2. DHSS, Death MICA.

MICA bibliography entry:

> Missouri Department of Health and Senior Services (DHSS). Injury MICA. MOPHIMS (Missouri Public Health Information Management System). https://healthapps.dhss.mo.gov/MoPhims/QueryBuilder?qbc=IM&q=1&m=1. Accessed May 3, 2019.

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